



# Exhaust Emission Data Sheet

## 200DSGAE

### 60 Hz Diesel Generator Set

### EPA Emission: Tier 3

#### Engine Information:

Model: Cummins Inc. QSB7-G5 NR3  
Type: 4 Cycle, In-line, 6 Cylinder Diesel  
Aspiration: Turbocharged and CAC  
Compression Ratio: 17.2:1  
Emission Control Device: Turbocharged and CAC

Bore: 4.21 in. (107 mm)  
Stroke: 4.88 in. (124 mm)  
Displacement: 408 cu. In. (6.7 liters)

	1/4	1/2	3/4	Full	Full
PERFORMANCE DATA	Standby	Standby	Standby	Standby	Prime
BHP @ 1800 RPM (60 Hz)	90	158	230	303	273
Fuel Consumption (gal/Hr)	5.1	8.5	11.4	14.5	13.1
Exhaust Gas Flow (CFM)	683	1084	1231	1428	1332
Exhaust Gas Temperature (°F)	694	802	864	949	903
EXHAUST EMISSION DATA					
HC (Total Unburned Hydrocarbons)	0.28	0.12	0.04	0.03	0.03
NOx (Oxides of Nitrogen as NO <sub>2</sub> )	1.85	1.93	2.79	4.58	3.90
CO (carbon Monoxide)	1.76	0.88	0.39	0.19	0.23
PM (Particular Matter)	0.16	0.10	0.06	0.02	0.03
SO <sub>2</sub> (g/Hp-hr)	0.17	0.17	0.15	0.14	0.14
Smoke (Bosch)	0.73	0.65	0.55	0.25	0.26

All values are Grams per HP-Hour

#### TEST CONDITIONS

Data is representative of steady-state engine speed ( $\pm 25$  RPM) at designated genset loads. Pressures, temperatures, and emission rates were stabilized.

Fuel Specification: ASTM D975 No. 2-D diesel fuel with 0.03-0.05% sulfur content (by weight), and 40-48 cetane number.  
Fuel Temperature:  $99 \pm 9$  °F (at fuel pump inlet)  
Intake Air Temperature:  $77 \pm 9$  °F  
Barometric Pressure:  $29.6 \pm 1$  in. Hg  
Humidity: NOx measurement corrected to 75 grains H<sub>2</sub>O/lb dry air  
Reference Standard: ISO 8178

The NOx, HC, CO and PM emission data tabulated here are representative of test data taken from a single engine under the test conditions shown above. Data for the other components are estimated. These data are subjected to instrumentation and engine-to-engine variability. Field emission test data are not guaranteed to these levels. Actual field test results may vary due to test site conditions, installation, fuel specification, test procedures and instrumentation. Engine operation with excessive air intake or exhaust restriction beyond published maximum limits, or with improper maintenance, may result in elevated emission levels.



# 2014 EPA Tier 3 Exhaust Emission Compliance Statement 200DSGAE Stationary Emergency 60 Hz Diesel Generator Set

## Compliance Information:

The engine used in this generator set complies with Tier 3 emissions limit of U.S. EPA New Source Performance Standards for stationary emergency engines under the provisions of 40 CFR 60 Subpart IIII when tested per ISO8178 D2.

Engine Manufacturer:	Cummins Inc
EPA Certificate Number:	ECEXL0409AAD-007
Effective Date:	04/29/2013
Date Issued:	04/29/2013
EPA Engine Family (Cummins Emissions Family):	ECEXL0409AAD (D313)

## Engine Information:

Model:	QSB6.7 / QSB7 / QSB7-G5 NR3	Bore:	4.21 in. (107 mm)
Engine Nameplate HP:	324	Stroke:	4.88 in. (124 mm)
Type:	4 Cycle, In-line, 6 Cylinder Diesel	Displacement:	408 cu. in. (6.7 liters)
Aspiration:	Turbocharged and CAC	Compression Ratio:	17.2:1
Emission Control Device:		Exhaust Stack Diameter:	4 in.

## Diesel Fuel Emission Limits

### D2 Cycle Exhaust Emissions

	Grams per BHP-hr			Grams per kWm-hr		
	<u>NOx + NMHC</u>	<u>CO</u>	<u>PM</u>	<u>NOx + NMHC</u>	<u>CO</u>	<u>PM</u>
Test Results - Diesel Fuel (300-4000 ppm Sulfur)	3.0	0.7	0.08	4.0	1.0	0.11
EPA Emissions Limit	3.0	2.6	0.15	4.0	3.5	0.20
Test Results - CARB Diesel Fuel (<15 ppm Sulfur)	2.7	0.7	0.07	3.7	1.0	0.10
CARB Emissions Limit	3.0	2.6	0.15	4.0	3.5	0.20

The CARB emission values are based on CARB approved calculations for converting EPA (500 ppm) fuel to CARB (15 ppm) fuel.

**Test Methods:** EPA/CARB Nonroad emissions recorded per 40CFR89 (ref. ISO8178-1) and weighted at load points prescribed in Subpart E, Appendix A for Constant Speed Engines (ref. ISO8178-4, D2)

**Diesel Fuel Specifications:** Cetane Number: 40-48. Reference: ASTM D975 No. 2-D.

**Reference Conditions:** Air Inlet Temperature: 25°C (77°F), Fuel Inlet Temperature: 40°C (104°F). Barometric Pressure: 100 kPa (29.53 in Hg), Humidity: 10.7 g/kg (75 grains H<sub>2</sub>O/lb) of dry air; required for NO<sub>x</sub> correction, Restrictions: Intake Restriction set to a maximum allowable limit for clean filter; Exhaust Back Pressure set to a maximum allowable limit.

Tests conducted using alternate test methods, instrumentation, fuel or reference conditions can yield different results.

Engine operation with excessive air intake or exhaust restriction beyond published maximum limits, or with improper maintenance, may result in elevated emission levels.